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1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

*The Mechanical Properties of Metals and Alloys Under Static Loading at Low Temperatures (-196° and -253° C.). II.—Non-Ferrous Alloys (Duralumin, Lental, Alumin, Bronze, Brass, Manganin, Elektron). V. I. Kostinets (Zhur, Tekhn. Fiziki, 1946, 16, (5), 627-634).—[In Russian]. Cf. 567, pp. 515-526; Met. Abs., this vol., p. 89. Determinations of tensile strength, elongation, and reduction of area were carried out at +17°, -196°, and -253° C. on 11 non-ferrous alloys: brass red, brass 12450, cast bronze, phosphor bronze, beryllium bronze, bronze Ab, Manganin, Elektron, Duralumin, Lental, and Alumin. As in the case of the pure metals, all the face-centred cubic alloys maintained or even increased their plasticity at temp. down to -253° C. With decrease in temp. the effect of various impurities in the copper and aluminium alloys investigated on the strength and plasticity of the alloys in general diminished. Of the copper-base alloys studied, the best at low temp. from the point of view of strength, plasticity, and, in particular, of creep limit appear to be phosphor bronze and beryllium bronze. Manganin too is distinctly superior to brass in creep limit at low temp. Of the aluminium alloys, Duralumin appears to be eminently suitable for use at low temp. —N. A.

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COVER
 PROCESSES AND PROPERTIES INDEX

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PROCESSES AND PROPERTIES INDEX																																																			
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<p>MECHANICAL PROPERTIES OF METALS AND ALLOYS AT LOW TEMPERATURES (-196° and -253°C.). Part III. V. I. Kostinets and A. M. Ivanchenko. (Journal of Technical Physics, U.S.S.R. 1946, vol. 16, No. 6, pp. 539-550 (in Russian); (Abstract) Centre National de la Recherche Scientifique, Bulletin Analytique, 1948, vol. 9, No. 8, p. 1621).</p> <p>This part deals with 0.1 - 0.5% carbon steels and with eight Russian low alloy steels.</p>																																																			
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<p>"The Mechanical Properties of Metals and Alloys Under Static Loading at Low Temperatures (-196° and -253° C.). IV.—Solders. V. I. Kostengia and A. M. Ivanchenko (<i>Zhur. Tekhn. Fiziki</i>, 1946, 16, (5), 531-534).—[In Russian]. Cf. <i>ibid.</i>, pp. 527-538; <i>Met. Abs.</i>, this vol., p. 93. The results are given of measurements at $+17^{\circ}$, -196°, and -253° C. of the tensile strength, elongation, and reduction of area of 9 sorts of soft solder, containing lead 10-75% and tin 90-25%, and two sorts of hard silver solder containing silver 45, copper 30, zinc 25% and silver 70, copper 20, zinc 10%. On the basis of strength and plasticity, the best solder for work at low temp. down to -253° C. appears to be that containing lead 75, tin 35%. Additions of antimony and copper to soft solders have no substantial effect on their properties at low temp. Hard solders are almost equal as regards plasticity at low temp., and are stronger the lower is the silver content.—N. A.</p>																																																			
<p>ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

MECHANICAL PROPERTIES OF METALS AND ALLOYS AT LOW TEMPERATURES
(-106° and -253°C.). Part III. V. I. Kostenets and A. M.
Ivanchevskiy. (Journal of Technical Physics, U.S.S.R., 1966, vol.
36, No. 6, pp. 939-941 (in Russian); Abstracts Russian National
de la Recherche Scientifique, Bulletin Analytique, 1966, vol. 9,
No. 4, p. 1621).

This part deals with 0.1 - 0.5% carbon steels and with eight Russian
low alloy steels.

[illegible]

BAKUL', V.N.; KOSTENETSKAYA, G.D.

New VK4V hard alloy for electric drill cutter heads. Ugol' 33 no.2:
27 F '58. (MIRA 11:2)

1. Ukrtverdsplan.

(Boring machinery) (Tool steel)

GEL'TMAN, Aleksandra Pavlovna; KOSTENETSKAYA, M., red.; FISENKO, A.,
tekhn. red.

[Two million one hundred thousand eggs in a year] Dva milliona sto
tysiach iaits v god. Simferopol', Krymizdat, 1960. 23 p.
(MIRA 14:11)

1. Ptichnitsa sovkhoza "Yuzhnyy" Simferopol'skogo rayona (for Get'man).
(Simferopol District—Eggs—Production)

VOLOSHIN, Mikhail Petrovich, kand. biol. nauk; KORMILITSYN,
Aleksandr Mikhaylovich, kand. sel'khoz. nauk;
KOSTENETSKAYA, M., red.; ISUPOVA, N., tekhn. red.

[Establishing rural parks and landscaping state- and col-
lective-farm settlements] Zakladka sel'skikh parkov i ozele-
nenie poselkov sovkhov i kolkhozov. Simferopol', Krym-
izdat, 1960. 96 p. (MIRA 15:7)
(Crimea--Landscape gardening)

KOCHETKOVA, Valentina Alekseyevna, kand. sel'khoz. nauk; LOBANOV, Semen Semenovich, kand. sel'khoz. nauk; TATARINOV, Anatoliy Nikolayevich, kand. sel'khoz. nauk; KOSTENETSKAYA, M., red.; ISUPOVA, N., tekhn. red.

[Backyard orchard]Sad u doma. Simferopol', Krymizdat, 1962.
148 p. (MIRA 15:9)

(Crimea—Fruit culture)

DRAGAVTSEV, Aleksandr Ietrovich, prof., doktor sel'khoz. nauk;
KOSTENETSKAYA, M., red.

[Terracing mountain slopes for orchards] Terrasirovanie
gornyykh sklonov pod sady. Simferopol', Krym, 1964. 77 p.
(MIRA 18:1)

KOSTENETSKAYA, M., red.

[School of irrigators] Shkola poliva'shchikov. Simferopol',
Izd-vo "Krym," 1964. 122 p. (MIRA 18:1)

FEOLITOV, Mikhail Vasil'yevich; KOSTENETSKAYA, N., red.

[Recent developments prevail] Novoe pozvhaet. Simfe-
ropol', Krym, 1964. 74 p. (MIRA 18:1)

KOSTENETSKAYA, N. A.

Kostenetskaya, N. A. - "The formation of retarding conditioned-reflexes on the indifferent irritants," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 124-37, - Bibliog: 5 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KOSTENETSKAYA, N. A.

Kostenetskaya, N. A. - "On the control of the general functional condition of the cortex of the large hemisphere," Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 138-50

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KOSTENETSKAYA, N. A.

Kostenetskaya, N. A. - "The occurrence of a painful impellent stimulant and the cure,"
Trudy fiziol. laboratoriy im. Pavlova, Vol. XV, 1949, p. 332-60, - Bibliog: 5 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

KUPALOV, P.S.; KOSTENETSKAYA, N.A.

Phenomenon of summational explosiveness. Fiziol. zh. SSSR 37 no.5:553-561 Sept-Oct 51. (CJML 21:4)

1. Physiological Department imeni Academician I.P. Pavlov, Institute of Experimental Medicine of the Academy of Medical Sciences USSR, Leningrad.

KOSTENETSKAYA, N.A.; MURAV'YEVA, N.P.

Phenomenon of positive induction in higher than threshold inhibition.
Zh. vysshei nerv. deiat. 3 no.3:346-352 May-June 1953. (GLML 25:4)

1. Physiology Department imeni Academician I. P. Pavlov of the Institute
of Experimental Medicine of the Academy of Medical Sciences USSR.

KOSTENETSKAYA, N. A.

KOSTENETSKAYA, N. A. "The participation of conditioned-reflex mechanisms in the regulation of the functional state of the cerebral cortex." Acad Med Sci USSR. Inst of Experimental Medicine. Physiology Department imeni Academician I. P. Pavlov. Leningrad, 1956.
(Dissertation for the Degree of Doctor in Sciences)

Medical

So: Knizhnaya Letopis', No. 18, 1956

KOSTENETSKAYA, N.A.

Regulation of general functional conditions of the cerebral cortex
in dogs exposed to repeated cerebral anemia [with summary in English].
Zhur.vys.nerv.doiat. 8 no.5:680-684 8-0 '58 (MIRA 12:1)

1. Fiziologicheskii otdel im. I.P. Pavlova Instituta eksperimental
noy meditsiny ANU SSSR.

(BRAIN, blood supply

eff. of repeated anemization on cerebrocortical function
in dogs (Rus))

(CEREBRAL CORTEX, physiol.

eff. of repeated cerebral anemization on cortical
funct. in dogs (Rus))

KOSTENETSKAYA, N. A. (Leningrad)

Uchastiye setchatogo obrazovaniya v uslovno-reflektornoy regul'yatsii
obshchego tonusa kory bol'shikh polushariy

report submitted for the First Moscow Conference on Reticular Formation,
Moscow, 22-26 March 1960.

BIRYUKOV, D.A., otv. red.; ABULADZE, K.S., red.; DANILOV, I.V., red.;
KUDRYAVTSEVA, N.N., red.; ~~KOSTENETSKAYA, N.A., red.~~; LAPINA,
I.A., red.; MURAV'YEVA, N.P., red.; KHANANASHVILI, M.M.,
red.; ZIMKINA, A.M., red.; KHARASH, G.A., tekhn. red.

[Some problems of modern physiology; a collection of papers
dedicated to the 70th birthday and 45th anniversary of the sci-
entific activity of the Honored Scientist, Professor Petr
Stepanovich Kupalov, member of the Academy of Medical Sciences
of the U.S.S.R.] Nekotorye voprosy sovremennoi fiziologii;
sbornik, posviashchennyi 70-letiiu so dnia rozhdeniia i 45-
letiiu nauchnoi deiatel'nosti deistvitel'nogo chlena AMN SSSR
zasluzhennogo deiatelia nauki professora Petra Stepanovicha
Kupalova. Leningrad, Medgiz, 1959. 262 p. (MIRA 15:8)

1. Institut eksperimental'noy meditsiny Akademii meditsinskikh
nauk SSSR (for Biryukov, Abuladze).
(KUPALOV, PETR STEPANOVICH, 1889?-)
(PHYSIOLOGY)

KOSTENETSKAYA, N.A.; KUPALOV, P.S.

Characteristics of the cortical representation of unconditioned reflexes to the infusion of a sugar solution and acid into a dog's mouth. Trudy 1-go MMI 11:328-339 '61. (MIRA 15:5)

1. Fiziologicheskii otdel imeni I.P.Pavlova Instituta eksperimental'noy meditsiny AMN SSSR.

(REFLEXES)

(CONDITIONED RESPONSE)

KOSTENETSKAYA, Nataliya Anatol'yevna; VASIL'YEV, Z.A., red.

[Conditioned reflex regulation of the cerebral cortex
tonus] Uslovnoreflektornaya regulatsiya tonusa kory go-
lovnogo mozga. Leningrad, Meditsina, 1965. 114 p.
(NIRA 18:3)

DANILOV, I.V.; KOSTENETSKAYA, N.A.; LAPINA, I.A.; MEDVYEDOVA, N.P.

Petr Stepanovich Kupalov, 1888-1964. Zhur. vys. narv. deiat. 15
no.2:195-201 Mr-Ap '65. (MIRA 18:5)

KOSTENETSKAYA, N.A.

Course of the secretory alimentary reflex in stimulation of
the lateral parts of the hypothalamus. Zhur. vys. nerv. deiat.
15 no.2:325-331 Mr-Apr '65. (MIRA 18:5)

1. Fiziologicheskiiy otdel imeni I.P. Pavlova Instituta ekspe-
rimental'noy meditsiny AMN SSSR, Leningrad.

NASLEDOVA, I.D. (Leningrad); BYKOV, K.M., akademik, direktor; KOSTENETSKIY, A.S.,
doktor meditsinskikh nauk, zaveduyushchiy.

Quantitative and qualitative modifications of the glia in experimental cerebral
wounds in rabbit. Arkh.pat. 15 no.4:14-22 Jl-Ag '53. (MLRA 6:11)

1. Institut fiziologii im. I.P.Pavlova (for Bykov and Nasledova). 2. Laborato-
riya patomorfologii (for Kostenetskiy).
(Brain--Wounds and injuries)

KOSTENETSKIY, K. P., ENGINEER

Cand Tech Sci

Dissertation: "Railroad Transport of Blast Furnace Shops"

21 Feb 49

Moscow Order of the Labor Red Banner Engineering Construction Inst
imeni V. V. Kuybyshev

SO Vecheryaya Moskva
Sum 71

DUBINSKIY, P.F.; KOSTIN, I.I.; MERKUSHEV, R.M.; KOSTENETSKIY, K.P.
kandidat tekhnicheskikh nauk, redaktor; BEGAK, B.A., redaktor;
MEDVEDEV, L.Ya., tekhnicheskij redaktor

[Transportation in industrial enterprises] Transport promyshlennyykh predpriyatii. Moskva, Gos.izd-vo lit-ry po stroit. i arkhitekt.
1955. 282 p. (MLRA 8:10)
(Transportation)

KOSTENETSKIY, K. P.

12(0) PHASE I BOOK REPRODUCTION 80V/1728

Abademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 610 p. 5,000 copies printed.

Red. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Eds. of Publishing House: V.S. Kibrikov, and A.M. Kurnov; Tech. Ed.: T.V. Polyakova.

PHASE I: This book is intended for scientific and technical personnel in the field of metallurgy.

CONTENTS: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Mordukhai on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of two articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nicholas Grant, and John Elliott (M.I.T., USA) describing their meeting with Mordukhai in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major services of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles devoted to the metallurgy of nonferrous metals. The fifth part consists of eight articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No preambles are mentioned.

TABLE OF CONTENTS:

Modern Problems in Metallurgy	80V/1728
Korotkiy, I.I. [Doctor of Chemical Sciences, Metallurgical Institute Imeni A.A. Baykov, AS USSR]. Chemistry of Titanium	583
Starodubov, E.P. [Academician], and Yu.Z. Morozovskiy [Engineer, Institute of Ferrous Metallurgy, AS USSR]. Increasing the Strength and Toughness of Low Carbon Steel by Heat Treatment	598
Platunovskiy, L.I., and Z.O. Fridman. Investigating Fatigue Strength of Rails Containing Arsenic	598
Platunov, P.S., I.Ya. Kravchenko, and V.A. Koshkin [Metallurgical Engineering Kombinat]. Increasing the Strength and Wear Resistance of Railroad Rails by Oil Quenching	604

GENERAL PROBLEMS IN METALLURGY

Korotkiy, I.I. [Candidate of Technical Sciences, Director, State Institute for the Research and Planning of Metallurgical Plants]. General Plans of Metallurgical Plants	615
AVAILABILITY: Library of Congress	60/64
Card 12/12	6-19-59

SOV/118-58-12-2/17

AUTHOR: Kostenetskiy, K.P., Candidate of Technical Sciences

TITLE: For a Wide Introduction of Conveyer Transportation in Metallurgical Plants (Za shirokoye vnedreniye konveyernogo transporta na metallurgicheskikh zavodakh)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 12, pp 6 - 11 (USSR)

ABSTRACT: Until now, big metallurgical enterprises mainly use rail communication for internal transportation purposes. In recent years, however, these plants have started to switch to conveyers and other means of continuous transportation, monorail transportation, rope-ways, pneumatic and hydraulic transportation. But these modern, economical and efficient means of transportation still do not play the role they deserve. It is impossible to introduce full scale mechanization and automation without creating conveyer systems for internal transportation. A system of conveyer transportation was introduced at the Cherepovetskiy zavod (the Cherepovets Plant), where it proved successful despite certain structural defects. The Gipromez has developed conveyer systems for the delivery and storing of materials to be introduced at the Karagandinskiy metallurgicheskiy zavod (the Karaganda Metallurgical

Card 1/2

SOV/118-58-12-2/17

For a Wide Introduction of Conveyor Transportation in Metallurgical Plants

Plant) and at the Zapadnosibirskiy metallurgicheskiy zavod (the West-Siberian Metallurgical Plant). At the All-Union conference for mechanization and automation, in the Kremlin in May 1958, the Chairman of the Gosplan I.I. Kuz'min set the task to establish fully automatized industrial enterprises in all branches of industry. During the last 15 years, the USA, Western Germany and other countries have recognized the importance of conveyor transport. The experience of such foreign conveyor transport (particularly in metallurgy) has not been studied sufficiently. There are 5 diagrams and 1 table.

Card 2/2

KOSTENETSKIY, K.P., kand.tekhn.nauk

Automation improves working conditions at a metallurgical
plant. Bezop.truda v prom. 4 no.1:24-26 Ja '60.
(MIRA 13:5)

(Automation) (Steelworks)

S/130/60/000/011/002/011
A006/A001

AUTHOR: Kostenetskiy, K. P., Candidate of Technical Sciences
TITLE: The Automated Metallurgical Plant - A Real Contemporary Problem
PERIODICAL: Metallurg, 1960, No. 11, pp. 3-5

TEXT: The first projects on the organization of an automated metallurgical plant were developed in 1960 by Gipromez, providing for three main sections of automation: 1. the development of technological processes and units suitable for automation; 2. the development of automated transportation systems; 3. the development of kibernetic automation principles i. e. automated measurement, control and regulation of electric drives and mechanisms and the use of computers for the automatic control of units, shops and the plant. The main principle when dressing the general plan of an automated plant is to consider the plant as one shop including the blast furnace, the steel melting units and the rolling mills. One external railway station is provided for the supply and dispatch of materials. Then the following units are consecutively arranged: the coke-chemical shops, the sintering plants, the blast furnace the steelmaking and, the rolling shops. The interconnection between the warehouses and the shops is ensured by conveyer lines. Coke and sinter are supplied by belt conveyers directly to the furnace
Card 1/4

APPROVED FOR RELEASE: 06/14/2000

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S/130/60/000/011/002/011
A006/A001

The Automated Metallurgical Plant - A Real Contemporary Problem

charge holes. Liquid cast iron is transferred by induction pumps or temporary automated railway transportation systems using traverse automatic trolleys. Slag and blast furnace dust are removed by hydraulic and pneumatic means. The charge of steel making units is supplied by belt conveyers; scrap is delivered in containers by monoconvey. Steel is cast in continuous teeming machines or into molds on special conveyers. Steelmelting slag is removed by hydraulic means or teeming machines using special conveyers. In the rolling shops all the metal is transported by conveyers. Special attention is given to the interconnection of individual shops (150-250 m instead of 1 - 1.5 km as at the existing plants). The following machines and equipment are being designed: an ore blending machine of 350-m³/hr capacity, designed by Yuzhuralmashzavod; 3,000-m³ blast-furnaces; 1,000-ton open-hearth furnaces; 300-ton converters; "1300-1500" automated blooming mills for the rolling of ingots of up to 10 tons weight and new "1250" slab mills for rolling ingots of up to 35 tons weight; induction pumps; hermetic hydraulic-impact units to transport liquid slag which are being developed by Ukrigiprostroyaterialy Trust; high-pressure hermetic units with steam bleeding-off; vibration chargers and machines with constant molds for the charge supply

Card 2/4

S/130/60/000/011/002/011
A006/A001

The Automated Metallurgical Plant - A Real Contemporary Problem

by spatial pushing conveyers; conveyers with rubber belts of up to 50,000-t/hr efficiency; spatial conveyers with up to 20-ton-containers and automated loading and unloading of materials during the transport; pushing suspended conveyers with up to 10-ton-containers; trolley conveyers for 35-40 ton ingots; rope tramways of 500-t/hour efficiency; hydraulic transportation units to remove rejects, of an efficiency of 4 to 8 million tons/year; pneumatic material transportation means operating within a 1-km-range; special motorcars to transport small loads and many other types of conveyers and machines. An economical analysis of the project shows that the costs of an automated plant will be by 20 - 25% lower than those of a conventional plant.

Figure 1. Schematic drawing of an automated metallurgical plant

1 - coal dump car; 2 - ore dump car; 3 - ore stockyard with blending machines;
4 - coal preparation; 5 - coke chemical shop; 6 - crushing and sorting of ore;
7 - sintering department; 8 - blast furnace shop; 9 - hydraulic impact unit
for slag; 10 - mixer; 11 - induction pump station; 12 - open-hearth shop;
13 - continuous steelcasting machine; 14 - transient continuous furnace; 15 -
rolling shop.

Card 3/4

Card 4/4

S/133/60/000/011/022/023
A054/A029

AUTHOR: Kostenetskiy, K.P., Candidate of Technical Sciences
TITLE: Mechanization and Automation of Transport and Handling Operations
in Iron and Steel Plants
PERIODICAL: Stal', 1960, No. 11, pp 1053-1054

TEXT: The partiyno-tekhnicheskaya konferentsiya Gipromeza po mekhani-
zatsii i avtomatizatsii transportnykh rabot v chernoy metallurgii (Technical
Party Conference on Mechanization and Automation of Transport in the Ferrous
Industry) convened by Gipromet (July 27-28, 1960) was attended by more than 100
specialists belonging to 40 research and planning institutes and plants. In
the opening paper read by K.P. Kostenetskiy, Candidate of Technical Sciences,
a general survey was given on the progress made in mechanization and automa-
tion of the heaviest working processes (waggon tipplers, gantry and other types
of cranes, automatic loaders, conveyor systems, etc.). The speaker criticized
the planned productivity indices: actually, capital investment for the trans-
port system in metallurgy amounts to 40% of total investments and not to 6-
10% as shown in the plans. The initial costs for the reconstruction of the
transport system amount from 30 to 55% of the total expenses and not to 2-8%
Card 1/4

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S/133/60/000/011/022/023
A054/A029

Mechanization and Automation of Transport and Handling Operations in Iron
and Steel Plants

as given in the official pre-production costing, while the number of trans-
port workers amounts to 60% of the total labor of a plant and not to 8-10% as
planned. The transport system is the key problem to automation. Without
improving transport and loading, it is not possible to introduce automation
from single machine groups to workshops and to the entire plant. The main
problems encountered in the complete automation of metallurgical plants are:
the charging of the furnace by conveyors, the feeding of hot metal not by
ladles, but by induction pumps, the crushing of furnace and steel-pouring hot
slags by hydraulical impact in the proximity of the furnace in hermetically
closed equipment, the hydraulic transport of granulated slag, conveyors for
the transport of hot castings and ingot molds, automatically handled stocks
of finished products, accelerated transport for the workers between plant and
home, etc. S.S. Berlyand, Engineer, read a paper on the plans worked out by
Gipromet and Promtransport for the Magnitogorskiy metallurgicheskiy kombinat
(Magnitogorsk Metallurgical Combine) for the introduction of conveyor and
truck transport systems in this plant. The transport by rail will be entirely
Card 2/4

S/133/60/000/011/022/023
A054/A029

Mechanization and Automation of Transport and Handling Operations in Iron
and Steel Plants

was made that scientific research institutes do not pay sufficient attention to transport problems. One of the most important schemes, that of transporting liquid hot metal by induction pumps, cannot be brought nearer to solution because there is no institute responsible for this problem. Metallurgical journals do not allot sufficient space to transport problems and the training of transport specialists is also lagging behind, it was observed. The resolution was taken to set up a committee to coordinate the programs of research and planning institutes and to work out plans for fully automatic metallurgical plants.

ASSOCIATION: Gipromez

Card 4/4

KOSTENETSKIY, K.P., kand.tekhn.nauk

Mechanizing the conveying in steel mills. Mekh.i avtom.proizv.
14 no.9:8-12 S '60. (MIRA 13:9)

(Steelworks)

(Conveying machinery--Technological innovations)

KOSTENETSKII, K.-P., kand. tekhn. nauk

Mechanization and automatization of transportation and loading
and unloading operations in ferrous metallurgy plants. Stal' 20
no.11:1053-1054 N '60. (MIRA 13:10)

1. Gipromes.
(Metallurgical plants--Equipment and supplies)
(Automatic control)

24185

18.0000

1454, 1496, 1413

S/118/61/000/007/001/003
D221/D303

AUTHOR: Kostenetskiy, K.P., Candidate of Technical Sciences
TITLE: Automation of a metallurgical plant
PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 7,
1961, 1 - 5

TEXT: Plans for automating a metallurgical plant have been developed along two lines by the mechanization sector of the Gipromez:
1) Those in which high output metallurgical equipment is used;
2) Those using continuous production plant of a new type. The design of the latter is based on new technological modifications, such as the direct production of iron in flowing process plants or in the boiling layer. The production of cyclone steel envisages reduction at high temperatures in stages which ensure production of metal and slag in the molten state. In setting up an automatic plant, a new transportation system, linking separate units into a single automated complex, will be of great importance. A lay-out

Card 1/2

24185

S/118/61/000/007/001/003
D221/D303

Automation of a metallurgical ...

for the transportation of molten iron is shown together with one for the continuous teeming of steel. The setting up of automated plant requires new automatic regulating systems (centralization of automatic control) as well as local automatic systems for individual plant units. Such a system will include the automation of the following: 1) Planning the work of plant units; 2) controlling the work of the various plants; 3) setting up an optimum works procedure for plant and workshops; maintenance of the basic thermal energy and material balances; 4) setting up technico-economical indices for the production of a factory for specific time units (month, ten days, day); 5) a central control room using telescopic instruments and automation. It is suggested that the automation of blast furnace operations should be carried out in three stages. There are 4 figures.

Card 2/2

KOSTENETSKIY, K.P., kand.tekhn.nauk:

Automatic control of railroad car dumpers. Mekh.i avtom. proizv.
15 no.2:49-51 F 61. (KIPK 14:?)
(Dumping appliances) (Automatic control)

KOSTENETSKIY, K.P., kand.tekhn.nauk

Automatically controlled metallurgical plant. Mekh. i avtom.
proizv. 15 no.7:1-5 J1 '61. (MIRA 14:7)
(Metallurgical plants) (Automation)

KOSTENETSKIY, K.P.

Main problems of over-all mechanization and automatization in metallurgical plants. Izv. vys. ucheb. zav.; chern. met. 6 no.5: 196-200 '63. (MIRA 16:7)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov.
(Iron and steel plants—Equipment and supplies)
(Automatic control)

KOSTENETSKIY, K. P., doktor tekhn nauk

Overall mechanization and automation in ferrous metallurgy.
Mekh.i avtom.proizv. 18 no. 5:8-11 My '64. (MIRA 17:5)

KOSTENETSKIY, K.P., doktor tekhn.nauk

Overall mechanization and automation in metallurgy. Metallurg 9
no.12:1-3 D '64. (MIRA 18:2)

1. Gosudarstvennyy soyuznyy institut po proyektirovan'ya
metallurgicheskikh zavodov.

KOSTENETSKI, O. N.

✓ Deoxidation and teeming Bessemer rail steel. M. N. 16
Kravets, O. N. Kostenetski, and Ya. G. Buzatnikov.
(Petrovskii Plant). Stg 15, 613-20 (1965). — Different
deoxidation practices were tried in connection with the
elimination of white spots in the lower portions of bottom
cast ingots. The latter were found to be caused by layers of
steel solidified on the wall of the pouring funnel and carried
by the stream into the molds. Al deoxidation was selected
as leading to the least amt. of defects, 60 g./ton being added
to the ladle and 70 g./ton to the stream. J. D. Cat

(2)

of
met

1. OSTENETSKIY, O.N.
AFANAS'YEV, S.G.; SHUMOV, M.M.; EPSHTEYN, Z.D.; BEDA, N.I.; KOROBV, I.I.;
~~KOSTENETSKIY, O.N.~~; LIFSHTS, S.I.; RUBINSKIY, P.S.; FILIPOV, S.N.;
ANDR'YEV, T.V.

Besseyer steel smelting with oxygen blast from the top. Stal' 17
no. 5:602-700 Ag. '57. (MLRA 10:9)

1. Tsentral'naya nauchno-issledovatel'skaya institut chernoy metallurgii
i zavod im. Petrovskogo.
(Bessemer process) (Oxygen--Industrial applications)

SOV/137-58-10-20595

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 36 (USSR)

AUTHOR: Kostenetskiy, O.N.

TITLE: Top-blown-oxygen Converter Steelmaking Process (Proizvodstvo stali v konverterakh s produvkoy kisloroda sverkh)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1957, Vol 18, pp 703-709

ABSTRACT: Process indices and the difficulties encountered in developing the procedures for top blowing of O_2 in 20-t converters at the im. Petrovskiy Plant since September 1956 are described. The composition of the pig iron blown is: Si up to 0.70% Mn 1.4-1.8%, P up to 0.250%, S up to 0.070%. The ore, limestone, and bauxite are added prior to hot-metal addition. 80% of the Si, 30% of the P, 25% of the S, and 80% of the Mn is removed in the first 5-min period. The slags produced during this period contain up to 17-21% SiO_2 . Cooling of the heat is by ore, of which 20-30 kg is added per t pig iron, and by water, 20 liters being added per minute, delivery thereof being stopped 1 min before slagging off. The limestone and bauxite are added after slagging off, and the second period begins, in the course of

Card 1/2

SOV/137-58-10-20595

Top-blown-oxygen Converter Steelmaking Process

which the C and P are removed. Cooling by 20 liters of water per minute is performed starting with the 3rd minute, and ceases 4 min before the end of the heat. O₂ consumption during the heat is 60 nm³/min. The O₂ is of 95-99% purity. The lances are 800 mm above the still-metal level in most of the heats. The converter-lining life is inadequate, attaining 135-140 heats only when im. Petrovskiy Plant periclase-spinel brick was used. The SiO₂ in the slag and process temperature has a powerful unfavorable effect upon lining life, and the temperature must therefore be reduced. The yield of good product comes to as much as 81.9% of the weight of the metal portion of the charge. The major losses of metal are due to splash, which was found to contain 50-65% beads and lithoidal metal inclusions, and to skimming of the first slag, which contains 10-37% beads. Total losses of metal with the slag amount to ~5%. Owing to difficulties in high-level dust removal, the flues become clogged after 50 or 60 heats. It is necessary to improve the design of the stacks, the dust-removal system, the converter-tilting assembly, and the devices for making additions into the converter.

1. Steel--Production 2. Furnaces--Performance 3. Oxygen---Applications V.Ya.
4. Slags--Production 5. Materials--Cooling

Card 2/2

AFANAS'YEV, S.G.; ~~KOSTENETSKIY, O.N.~~; SHUMOV, M.M.; IVANOV, Ye.V.; PAVLOV, A.I.; GARGER, K.S.; KRIVULYA, G.D.; UMNOV, V.D.; UL'YANOV, D.P.; MANCHITS, K.A.; PETROV, S.A.; SOROKIN, A.A.; FRIDMAN, Ye.L.; EPSHTEYN, Z.D.; IVANTSOV, G.P.; NETESIN, A.Ye.

Reports (brief annotations). Hlul. TSNIICM no.18/19:106-107 '57.
(MIRA 11:4)

1. Zavod im. Petrovskogo (for Kostenetskiy).
2. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Shumov, Epshteyn, Ivantsov).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut ogneporov (for Ivanov).
4. Stal'proyekt (for Pavlov).
5. Metallurgicheskiy zavod im. Dzerzhinskogo (for Garger, Krivulya, Umov, Ul'yanov, Manchits, Petrov, Sorokin).
6. Dnepropetrovskiy filial Gipromesa (for Fridman).
7. TSentral'nyy institut informatsii chernoy metallurgii (for Netesin)
(Bessemer process)

ZAYKOV, S.T., kand. tekhn. nauk; KOROBV, I.I., inzh.; ~~KOSTENETSKIY,~~
O.N., inzh.; KRAVTSOV, P.Ya., inzh.; LIPSHITS, S.I., kand. tekhn.
nauk; RUBINSKIY, P.S., inzh.; UMNOV, V.D., inzh.

Using limestone-ore briquettes during oxygen blast through pig
iron in converters. Biul. TSNIICM no. 10:15-21 '58. (MIRA 11:7)
(Bessemer process)

KOSTENETSKIY, O.N.

Use of scrap metal in the converter process. Metallurg 6 no.5:13-
15 My '61. (MIRA 14:5)

1. Nachal'nik konverternogo tsekha zavoda im. Petrovskogo.
(Steel--Metallurgy) (Scrap metals)

KARMAZIN, V.I., doktor tekhn.nauk; KOSTENETSKIY, O.N., inzh.

Intensifying the oxygen-converter steelmaking process with the use of
ultra-pure iron ore concentrates. Met. i gornorud. prom. no.3:21-25
My-Je '63. (MIRA 17:1)

1. Dnepropetrovskiy gornyy institut (for Karmazin). 2. Dnepropetrovskiy
metallurgicheskiy institut (for Kostenetskiy).

KOSTENETSKIY, O.N.

Calculating the cooling agents for oxygen-blown converter
smelting. Izv. vys. ucheb. zav.; chern. met. 7 no.2:64-72
'64. (MIRA 17:3)

1. Dnepropetrovskiy metallurgicheskiy institut.

KOSTENETSKIY, O.N.; POGREBNOY, A.Ye.

Using scrap metal in the oxygen-blown converter method
of steel production. Met. i gornorud. prom. no.6:
18-21 N-D '65. (MIRA 18:12)

DENISOV, V.A., kand. tekhn. nauk; MANAKIN, A.M., kand. tekhn. nauk;
~~KOSTENETSKIY, S.V.~~, inzh.; KONDRASHEV, A.I., inzh.;
MAKSIMENKO, G.A., inzh.; DEMENT'YEV, M.F., inzh.

Cooling steel anvil molds after their filling and the subsequent
heat treatment of the castings. Lit. proizv. no.12:19-21 D '65.
(MIRA 18:12)

KOSTENICH, I.F. (Stalingrad)

Chemical nickel plating. Khim. v shkole 16 no.4:84-85 J1-Ag '61.
(MIRA 14:8)
(Nickel plating)

KOSTENICH, I.F.; Prinimali uchastiye: DOLOR SHAKIR I BRAVIM, student;
KHASAN ABDEL'; AMIR FERADZHM, student

Chemical silverplating. Khim.v shkole 18 no.2:74-77 Mr-Ap '63.
(MIRA 16:4)

1. Volgogradskiy mekhanicheskiy institut.
(Silver plating)

KOSTENICH, M. A.

"The Problem of the Variability of Epidermophyton Kaufman-Wolf."
Cand Med Sci, Minsk State Medical Inst, Minsk, 1954. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical
Dissertation Defended at USSR Higher Educational Institutions.
(14)

KOSTENICH, H.A.

Variability of Epidermophyton Kaufmann-Wolf. Sbor.nauch.rab.
Bel.nauch.-issl.kozhno-ven.inst. 4:133-136 '54 (MIRA 11:7)
(DERMATOPHYTES)

KARPOVICH, Ye.A., KOSTENICH, N.A.

Effect of hexylresorcinol on dermatophytes. Sbor.nauch.rab.
Bel.nauch.-issl.koshno-ven.inst. 4:137-139 '54 (MIRA 11:7)
(DERMATOPHYTES)
(RESORCINOL)

KOSTENICH, N. A.

USSR / Microbiology. General Microbiology. Geological F
Activity.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24017

Author : Karpovich, Ye. A.; Kostenich, N. A.;
Viktorskiy, A. P.

Inst : Belorussian Scientific Research Dermo-
Venerological Institute

Title : The Influence of Phtivazide, Heptyl-Resorcin,
and Hexyl-Resorcin on Cultures of Dermatophytes

Orig Pub : Sb. nauchn. rabot. Belorussk. n.-i. kozhno-
venerol. in-t, 1957, 5, 322-323

Abstract : Hexyl-resorcin possesses clearly-expressed
fungistatic and fungicidal properties with
respect to Trichophyton and Achorion
Schonleini.

Card 1/1

KOSTENICH, N.A.

Influence of ionizing radiation on the sensitivity of mice to Canadia.
Sbor.nauch.rab.Bel.nauch.-issl.kozhno-ven.inst. 6:79-82 '59.
(MIRA 13:11)

(X RAYS--PHYSIOLOGICAL EFFECT)
(MONILIASIS)

KOSTENICH, N.A.

Effect of amphotericin B and griseofulvin on Candida Cultures. Anti-biotiki 8 no.12:1105-1108 D '63. (MIRA 17:10)

1. Belorusskiy nauchno-issledovatel'skiy kozhno-vererologicheskii institut.

KOSTENICH, V., ytoroy shturman

Correction table for deadweights determined by the cargo scale with considerable trim. Mor. flot. 23 no.3:25-26 Mr '63. (MIRA 16:3)

1. Dizel'-elektrokhod "Rionges".
(~~Merchant ships~~—Cargo) (Trim (of ships))

1. KOSTENKO, A.
2. USSR (600)
4. Nakhodka (Ship)
7. In a large ocean-going vessel. Vokrug sveta, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ZEMLYANSKIY, N.I.; PRIB, O., student IV kursa; SHARYPKINA, M., student IV kursa; KOSTENKO, A., student III kursa; GLUSHKO, A., student III kursa; KOZHEVNIKOVA, O., student III kursa; KRASILOVSKAYA, T., student III kursa; SEREDA, N., student III kursa; PINTOVA, N., student III kursa; TSERKEVICH, G., student III kursa; SHAPKA, V., student III kursa

Condensation of aromatic hydrocarbons with halogen derivatives of aldehydes. Nauk. zap. L'viv. un. 13:129-135 '49.

(MIRA 12:10)

1.Kafedra organicheskoy khimii L'vovskogo gosudarstvennogo universiteta im. I. Franko.

(Hydrocarbons) (Aldehydes)

AUTHOR: Kostenko, A.

SOV/130-58-7-19/35

TITLE: To Learn from the Experience of Leading Experts (Uchit'sya na opyte peredovikov)

PERIODICAL: Metallurg, 1958, nr 7, p 35 (USSR).

ABSTRACT: The author briefly mentions some of the blast-furnace operators at the recently built Cherepovets Works:
N.P. Sapozhnikov, M.G. Pan'shin, v. Mel'nichuk, v. Solodkov,
v.N. Tsukanov, K.G. Mel'nikov, I.S. Grechushkin, v. Aleksandrov
and N. Lavrov. Some of these are experienced and the new
operators learn from them. There are 3 figures.

Card 1/1 1. Blast furnace--Operation

KOSTENKO, A. (Volgograd); TIMINOV, V. (Volgograd)

Reservoir with a pumping pipe. Pozh.delo 9 no.8:25 Ag '63.
(MIRA 16:9)
(Petroleum industry—Fires and fire prevention) (Pumping machinery)

Kostenko, A.I.

KOSTENKO, A.I.; LYUBIMOV, G.P.

Influence of load on mutual-synchronous operation of two reflex
klystrons. Radiotekh. i elektron. 3 no.1:112-115 Ja '58. (MIRA 11:2)

1. Kafedra radiotekhniki Fizicheskogo fakul'teta Moskovskogo gosu-
darstvennogo universiteta im. M.V. Lomonosova.
(Klystrons) (Microwaves)

KOSTENKO, A.

Prof. - tekhn. obr. 11 no. 5:19-20 Ag '54.

Study of new techniques. Prof.-tekh, obr. 11 no.5:19-20 Ag '54.
(MLRA 7:9)

1. Master spetsial'nogo remeslennogo uchilishcha No. 36 (g. Kiev)
(Woodworking machinery--Study and teaching)

KOSTENKO, A.

Factory-shop training. Prof.-tekh.obr. 12 no.3:23-24 Mr. 155.
(MIRA 8:5)

1. Master spetsial'nogo remeslennogo uchilishcha No. 36 (Kiev)
(Technical education)

KOSTENKO, A.

An expert's initiative. Prof.-tekh. obr. 13 no.11:19-20
N '56. (MLRA 9:12)

1. Master spetsial'nogo remeslennogo uchilishcha no.36, Kiyev.
(Vocational education)

AUTHOR: Kostenko, A., Foreman SOV-27-58-9-18/28
TITLE: ~~About Conscientious~~ Discipline (O soznatel'noy distsipline)
PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye, 1958, Nr 9,
pp 24 - 25 (USSR)
ABSTRACT: The article is a pedagogical treatise on general educa-
tion methods. The author gives several examples of cor-
rect measures to be taken in educational work.
ASSOCIATION: Spetsial'noye remeslennoye uchilishche nr 36 (Kiyev)
(Special Trade School Nr 36 (Kiyev))
1. Instructors--USSR

Card 1/1

UTKI-OTKI, L.A.; KOSTENKO, A.I., inzhener.

The drive for mechanical boosters of FP prepresses. Masl.-shir.prem.
(MLRA 9:10)

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825210010-

1. Kirevabadskiy Masloboynno-shirevey kombinat.
(Oil industries--Equipment and supplies)

KOSTENKO, A. I.

KOSTENKO, A. I. (Professor, City of Solikamsk) Expulsion of the larvae of gadfly
from the stomach of a horse.

So: Veterinariya; 23; (10-11); October/November 1946; Uncl.

TABCON

KOSTENKO, A. I.

USSR/Medicine - Infectious Diseases May 51
(Veterinary)

"Views of G. M. Bosh'yan on the Fight Against Equine Infectious Anemia," Prof A. I. Kostenko, Lys'vensk Inter-Rayon Vet Bacteriol Lab of Molotov Oblast

"Veterinariya" Vol XXVIII, No 5, pp 26, 27

Confirms Bosh'yan's observation that causative factor of equine infectious anemia may exist in either virus form or bacterial form. Describes his own work on cultivating bacterial form and infecting mice and guinea pigs with it. Discusses Bosh'yan's diagnostic prepn (anem/n) LC 182T73

USSR/Medicine - Infectious Diseases May 51
(Veterinary) (Contd)

and therapeutic and prophylactic vaccine for this disease. Agrees with Bosh'yan's views on role which resistance of organism plays in this infection, but points out that young, well-nourished horses also acquire the disease. States that hematophagous insects transmit and activate the virus.

LC 182T73

KOSTENKO, A.I., professor.

Biomycin in controlling coccidiosis in poultry. Veterinariia 32
no.7:85 J1 '55. (MLRA 8:9)

1. Lys'venskaya meshrayonnaya vetbaklaboratoriya Molotovskoy
oblasti.
(COCCIDIOSIS) (POULTRY-DISEASES) (AUREOMYCIN)

STAL'MAKHOV, V.S.; KOSTENKO, A.I., nauchnyy red.; ALEKSANDROVA, A.A.,
red.; BELYAYEVA, V.V., tekhn. red.

[Fundamentals of the electronics of superhigh frequency crossed-field devices] Osnovy elektroniki sverkhvysoko-chastotnykh priborov so skreshchennymi poliami. Moskva, Sovetskoe radio, 1963. 365 p. (MIRA 1616)
(Microwaves) (Microwave tubes)

USSR/Medicine - nutrition

FD-3062

Card 1/1 Pub. 141 - 8/23

Author : Dobriyer, I. B. and Kostenko, A. N.

Title : Acidophilic-yeast milk - a new type of sour milk product

Periodical : Vop. pit., 39-41, May/Jun 1955

Abstract : By using ferments containing cultures of lactobacterium acidophilum and certain types of wine yeast, the authors succeeded in preparing a sour milk product which differs from other dietetic milk products in taste and consistency. The best quality was achieved by cutting the fermentation at 33° with a two per cent beet sugar solution. The wine yeast, when used in conjunction with lactobacterium acidophilum, stimulates the growth of the latter and increases the shelf life of the product up to two or three months. Three references (all USSR; one since 1940).

Institution : Microbiological Laboratory (Head - Cand Biol Sci S. P. Askalonov)
Ukrainian Sci-Res Inst of Nutrition, Kiev

Submitted :

KOSTENKO, A.M.

KOSTENKO, A.M. (Kiyev)

Viability of Salmonella in frozen eggs. Vrach.delo supplement
'57:77-78 (MIRA 11:3)

1. Laboratoriya mikrobiologii Ukrainskogo nauchno-issledovatel'skogo
instituta pitaniya.
(SALMONELLA) (EGGS, FROZEN)

KOSTENKO, A. N.

Disinfection of egg shells by ultraviolet radiation. Gig. i san.
21 no.11:82-84 N '56. (MLRA 10:2)

1. Iz laboratorii mikrobiologii Ukrainского nauchno-issledovatel'skogo
instituta pitaniya.

(ULTRAVIOLET RAYS, eff.

disinfection of egg shells)

(ANTISEPSIS AND ASEPSIS

disinfection of egg shells with ultraviolet rays)

KOSTENKO, A.N.

ANDRUSHUK, A.A.; ASMALONOV, S.P.; GILBERT, T.A.; GUBRIK, I.B.; ZANOZDEA,
L.I.; KOSTENKO, A.N. (Kyiv)

Using acidophilus and yeast products in the diet of small children
in gastrointestinal diseases. *Pediatrics* no.7:101-103 J1 '57.
(ALIMENTARY CANAL DISEASES) (MIRA 10:10)
(MILK, ACIDOPHILUS)

DOBROVOL'SKIY, I.P.; PATRIKEYEVA, L.M.; Prinimali uchastiye: CHERVOV, A.P.;
KOSTENKO, A.R.; PARTINA, T.V.

Utilization of pitch distillates for the production of high
temperature pitch. Koks i khim. no.4:48-50 '61. (MIRA 14:3)

1. Chelyabinskiy metallurgicheskiy zavod (for Dobrovol'skiy, Patrikeyeva).
(Chelyabinsk—Pitch)

DOBROVOL'SKIY, I.P.; KOSTENKO, A.R.; CHERVOV, A.P.

Changes in the method of pitch preparation. Koks i khim. no.8:
33-34 '61. (MIRA 15:1)

1. Chelyabinskiy metallurgicheskiy zavod.
(Chelyabinsk--Coke ovens) (Pitch)

SHEMERYANKIN, B.V.; DOBROVOL'SKIY, I.P.; KOSTYUNIN, I.K.; KOPELIOVICH, L.V.;
DUBOVIK, A.N.; Prinimali uchastiye: KOSTENKO, A.R.; VAKHTOMOV, S.P.;
CHERVOV, A.P.

Ways of reducing the porosity of pitch coke. Koks i khim.
no.2:25-29 '62. (MIRA 15:3)

1. Chelyubinskiy metallurgicheskiy zavod (for Shemeryankin,
Dobrovol'skiy, Kostyunin, Kopeliovich, Kostenko, Vakhtomov,
Chervov). 2. Koksokhimstantsiya (for Dubovik).
(Coke)

KOSTENKO, A. S.

KOSTENKO, A. S. -- "Seasonal Changes in Gastric Secretion, the Blood Composition, and Productivity of Peking Ducks Kept in Water and on the Ground." Min Higher Education USSR. Kiev Veterinay Inst. Kiev, 1955
(Dissertation for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya Letopis', No 9, 1956

USSR/Human and Animal Physiology. Digestion. The Stomach.

T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55717.

Author : ~~Kostenko~~, A.S.

Inst : Delaya Tserkov' Farm Institute.

Title : The Role of the Nervous System in Regulating
Gastric Secretory Processes in Ducks.

Orig Pub: Nauchn. zap. Delotserkovsk. s.-kh. in-ta, 1957, 6,
97-105.

Abstract: General acidity, liberated HCl and proteolytic activity (according to Mett) were determined in 8 ducks with a fistula of the gastric glandular sector before and after they were fed 30 gr of wet barley. When the ducks were hungry, a constant secretion of gastric juice took place with a large amount of liberated and combined HCl. This secretion increased 1-1½ hours after feeding

Card : 1/3

USSR/Human and Animal Physiology. Digestion. The Stomach.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55717.

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were placed into a chamber at a temperature of 40-41°
[C] for one hour, their secretion was inhibited
irrespective of the season. Thus, in this connection
an environmental conditioned reflex generated, a
fact which proves that a complex reflectory tempera-
ture influence exists upon gastric secretion.

Card : 3/3

103

KOSTENKO, A.S.

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ZHIVIRBYANSKIY, Yu.M., doktor tekhnicheskikh nauk, professor; GOLUBEVA, A.D.,
inzhener-tekhnolog; KOSTENKO, A.S., inzhener-tekhnolog.

Two-boiling system with intermediate crystallization of green sirup.
Trudy TSINS no.4:92-127 '56. (MLRA 10:5)
(Sugar industry)

KOSTENKO, A.S.; PANASENKO, V.T.

Centrifugal screen of stainless steel wire. Sakh. prom. 31 no.4:35
Ap '57. (MIRA 10:6)

1. Khmel'nitskiy sakhsveklotrest.
(Centrifuges)

KOSTENKO A.S.

SHARKO, A.P.; KOSTENKO, A.S.

Sugar industry in Khmel'nitskiy Province. Sakh. prom. 32 no.3:4-7
Mr '58. (MIRA 11:4)

1. Khmel'nitskiy sakhsvekletrest.
(Khmel'nitskiy Province--Sugar industry)

BUSHUYEV, S.Ye.; KOSTENKO, A.S.

Extended season of mills of the Khmel'nitskiy Sugar Beet Trust.
Sakh. prom. 32 no.8:3-7 Ag '58. (MIRA 11:9)

1. Khmel'nitskiy sakhsveklotrest.
(Khmel'nitskiy Province--Sugar industry)

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S/114/60/000/006/006/008
E193/E383

AUTHORS: ~~Kostenko, A.V.~~, Pogrebetskaya, T.M., Engineers
and Yurgenson, A.A., Docent

TITLE: Study of Nitrided Steels 15X11MF (15Kh11MF) and
15X12VMF (15Kh12VMF) After Prolonged Holding
at 570 °C

PERIODICAL: Energomashinostroyeniye, 1960, No. 6,
pp. 33 - 36

TEXT: Owing to the necessity of using nitrided heat-resistant steels in turbines operating under conditions of high steam pressures and temperatures, need has arisen to determine the effect of time and temperature on the properties of the nitrided layers; hence the investigation described in the present paper. The composition (in wt.%) of the steels used in the experiments was as follows:

steel 15Kh11MF - 0.15% C, 0.50% Si, 0.32% Mn, 10.62% Cr, 0.25% Ni, 0.70% Mo, 0.35% V, 0.015% S and 0.02% P;

steel 15Kh12VMF - 0.13% C, 0.26% Si, 0.66% Mn, 12.0% Cr, 0.45% Ni, 0.80% W, 0.59% Mo, 0.20% V, 0.012% S and 0.02% P.

Card 1/10

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Study of Nitrided Steels 15Kh11MF and 15Kh12VMF After
Prolonged Holding at 570 °C

The experimental test pieces were heat-treated (air-hardening from 1 050 °C plus tempering at 740 °C in the case of steel 15Kh11MF and oil-quenching from 1 000 °C plus tempering at 700 °C in the case of steel 15Kh12VMF), machined to 10 x 10 x 30 mm in size, electrolytically degreased, pickled, phosphated and then subjected to the nitriding treatment, which consisted of 20 hours at 530 °C, followed by 20 hours at 580 °C, the degree of dissociation of ammonia being 35% at the lower and 65% at the higher temperature. The Rockwell hardness of the surface of the nitrided specimens was the same for both steels and amounted to 91 HRN; the nitrided layer of steel 15Kh11MF was slightly thicker (0.37 mm) than that of the steel 15Kh12VMF (0.32 mm). The nitrided test pieces were then held at 570 °C for 6 000 hours and during this period the microhardness across the nitrided layer and its thickness were measured at regular intervals, and the

Card 2/10

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Study of Nitrided Steels 15Kh11MF and 15Kh12VMF After
Prolonged Holding at 570 °C

microstructure of the nitrided layers was examined. Some of the typical results are reproduced in Fig. 1, where the hardness (kg/mm^2) is plotted against the distance (mm) from the surface of the nitrided layer on steels 15Kh11MF (graph a) and 15Kh12VMF (graph b); experimental points marked by dots, crosses and circles relate to measurements taken immediately after nitriding, after 3 500 hours at 570 °C, and after 5 000 hours at 570 °C, respectively. Another set of results is given in Table 3:

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Card 3/10

KOSTENKO, A. V.

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E193/E235

AUTHORS: Kostenko, A. V., Lopukhina, Ye. V., Pogrebetskaya, T. M.,
and Yurgenson, A. A., Engineers

TITLE: Structure of Nitrided Steel 15Kh11MF After Prolonged
Service at Elevated Temperatures

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
1960, No. 7, pp. 48-52

TEXT: Following their earlier findings (Ref. 1 to 3) that hardness of nitrided stainless and austenitic steels decreased after prolonged service at high temperatures, the present authors carried out a systematic study of this effect on nitrided specimens of steel 15Kh11MF which is frequently used as the material of some parts of steam turbines, operating at approximately 570°C. The test pieces, normalised at 1050°C and tempered at 740°C, were electrolytically degreased, pickled, phosphated and then nitrided by a two-stage process (20 h at 530°C followed by 20 h at 500°C, the degree of dissociation of ammonia being 35 and 65% respectively) which produced a nitrided layer 0.37 mm thick, with hardness HRN equal 95. The structure of the nitrided layer and the effect of prolonged

Card 1/3

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Structure of Nitrided Steel 15Kh11MF After Prolonged Service at Elevated Temperatures

(up to 5000 h) treatment at 570°C in air, was studied by X-ray analysis, metallographic examination, and microhardness measurements. It was established that, starting from its surface, the following strata can be distinguished in the surface layer of a nitrided steel: (1) $\text{Fe}_2\text{N} + \text{Fe}_4\text{N} + \text{CrN}$; (2) $\text{Fe}_4\text{N} + \alpha + \text{CrN}$; (3) $\alpha + \text{CrN}$; (4) $\alpha + \text{carbides}$. On heating in air, an oxide scale is formed whose thickness, after 5000 h at 570°C, reaches 0.09 mm, and the surface layer of the nitrided steel after such treatment contains the following strata: (a) Fe_2O_3 (microhardness - 768 kg/mm²); (b) Fe_3O_4 (microhardness - 455 kg/mm²); (c) $\text{FeO} \cdot \text{Cr}_2\text{O}_3$ (microhardness - 455 kg/mm²); (d) $\alpha + \text{CrN} + \text{FeO} \cdot \text{Cr}_2\text{O}_3$; (e) $\alpha + \text{Cr}_2\text{N}$; (f) $\alpha + \text{carbides}$. The most intensive oxidation takes place in the region which originally consisted of iron nitrides. This is attributed by the present authors to the fact that nitrides form solid solutions which are homogeneous within a wide composition limit and which are characterised by a high concentration of vacant lattice.

Card 2/3

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18.7400

AUTHORS: Kostenko, A.V., Lopukhina, Ye.V., Pogrebetskaya, T.M.
and Yurgenson, A.A.

TITLE: Peculiarities in the Behaviour of Nitrided Type 1Kh18N9T Steel During Prolonged Residence at a High Temperature

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 6, pp 868 - 877 (USSR)

ABSTRACT: The authors point out that the nitriding of austenitic steels has not been used in gas-turbine construction (Ref 2) because of process and finishing difficulties and the insufficient high-temperature stability of the nitrided layer (Refs 3,4). A previous study by the authors of a group of nitrided steels (Ref 5) showed the superiority of type 1Kh18N9T steel in these respects and the present investigation aimed at a more detailed study. Specimens of the steel (0.10% C, 17.80% Cr, 9.7% Ni, 0.64% Ti, 0.012% S, 0.020% P, 0.53% Mn, 0.58% Si) were hardened from 1 150 °C, aged for 8 hours at 800 °C, pickled in hydrochloric acid and nitrided at 600 °C for 75 hours. A 0.29 mm deep nitrided layer with a hardness $H_R = 92$

Card1/4

was obtained. The kinetics of reaction-diffusion of

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E111/E352

Peculiarities in the Behaviour of Nitrided Type 1Kh18N9T Steel During Prolonged Residence at a High Temperature

nitrogen and changes in the nitrided layer during prolonged holding at 680 °C in furnaces of a type IP-2 machine (as described in Ref 6) were investigated. For studying phases at increasing depth below the surface of the nitrided and scale-layer X-ray structural analyses of successive layers were carried out at the Ural'skiy gosuniversitet (Ural State University) in consultation with V.N. Konev. Figure 1 shows the structure of the nitrided layer before and after holding for 3 000 hours at 680 °C, while the oxides on an etched polished section after 250 hours is shown in Figure 2. The linear relations between the square of the gain in weight (g/mm^2) (Curve 1) and the square of the depth (mm) of the nitrided layer on the one hand and the duration of nitriding (hours) on the other given in Figure 3 indicates a parabolic law for nitrogen diffusion. The X-ray patterns from successive layers before and after holding at 680 °C for 4 500 hours are shown in Figures 4 and 5, respectively, the nature of

Card2/4

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Peculiarities in the Behaviour of Nitrided Type 1Kh18N9T Steel
During Prolonged Residence at a High Temperature

the phases being listed in Tables 1 and 2, respectively. The surface hardness of the nitrided steel is plotted against duration of holding (hours) at 680 °C in Figure 6, the corresponding effect on the depth of the nitrided layer being shown in Figure 7 (Curves 1, 2 and 3 refer to the whole, base, and transition layers, respectively). Figure 8 shows hardness as a function of depth below surface before and after holding for 5 000 hours (Curves 1 and 2, respectively). The work showed that saturation of the steel with nitrogen leads to austenite decomposition; the nitrogen is fixed as a nitride with the CrN structure. Prolonged holding at 680 °C gave an outer scale layer of ferric oxide and an inner layer of $(\text{Cr,Fe})_2\text{O}_3$; iron

nitrides dissociate; inside the nitrided layer complete austenite decomposition occurs, with equalization of nitrogen concentration with depth and formation and coagulation of nitrides. The authors recommend that nitriding conditions should be selected to give the greatest quality of stable nitrides (not iron nitrides) mechanically

Card3/4

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E111/E352

Peculiarities in the Behaviour of Nitrided Type 1Kh18N9T Steel
During Prolonged Residence at a High Temperature

hindering nitrogen diffusion and to prevent formation of
much alpha-phase. There are 8 figures, 2 tables and
14 references, 12 of which are Soviet, 1 English and
1 German.

ASSOCIATION: Sverdlovskiy turbomotornyy zavod (Sverdlovsk Gas-
turbine Works)

SUBMITTED: January 7, 1960

Card 4/4